

Industrialization

1865–1901

SECTION 1 The Rise of Industry

SECTION 2 The Railroads

SECTION 3 Big Business

SECTION 4 Unions

A steel-mill worker gathers a ball of molten iron at the U.S. Steel plant in Gary, Indiana. At the time of this photo, steelworkers were planning to strike for higher wages.



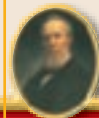
1879

- Thomas Edison perfects lightbulb

1876

- Alexander Graham Bell invents telephone

Hayes
1877–1881



1882

- Standard Oil forms trust

Garfield
1881



Arthur
1881–1885



Cleveland
1885–1889



1869

- Transcontinental railroad is completed

U.S. PRESIDENTS

U.S. EVENTS

WORLD EVENTS

1865

1865

- Dmitri Mendeleev creates periodic table of elements

1875

1876

- Nicholas Otto builds first practical gasoline engine

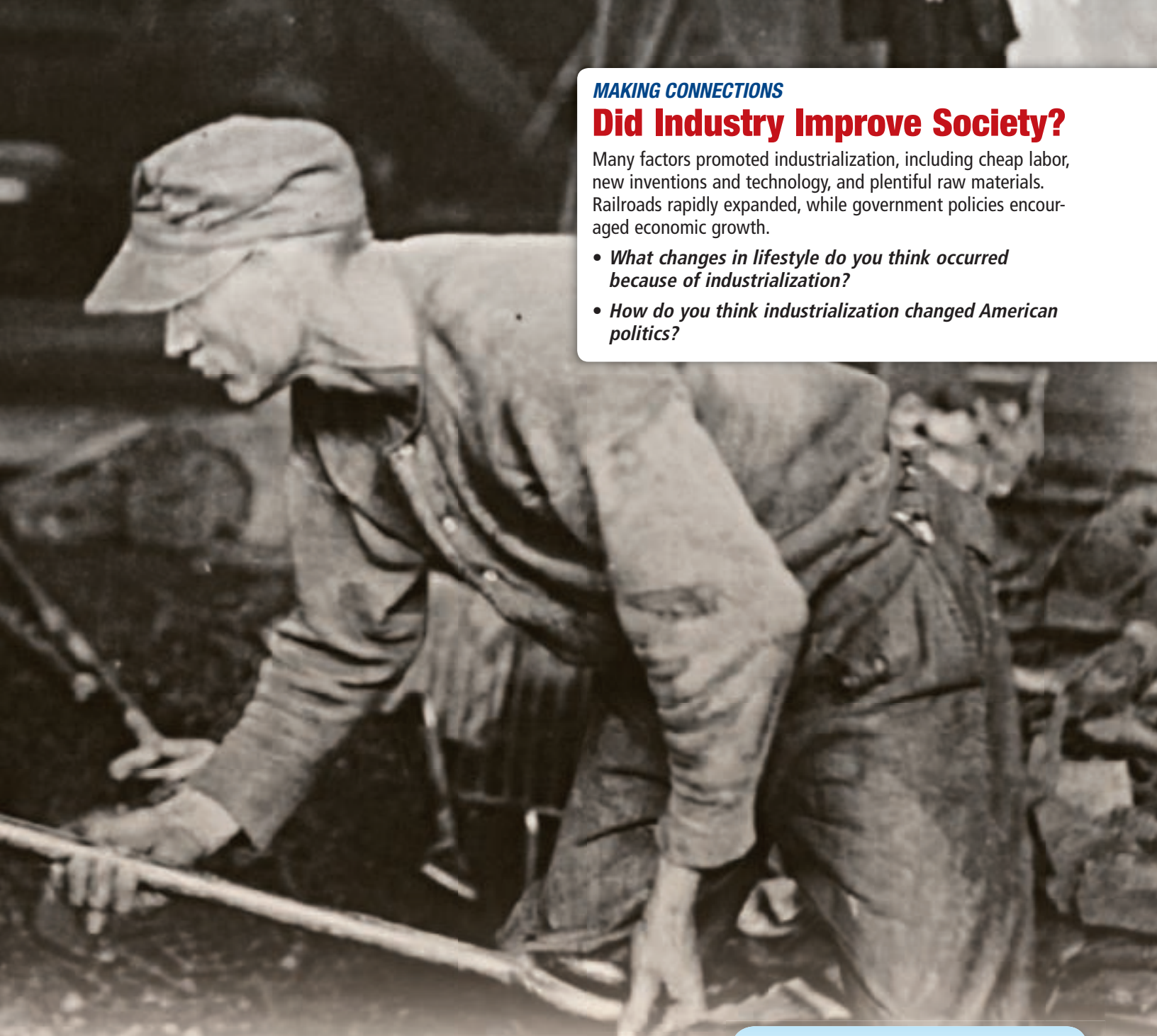
1880

- John Milne develops seismograph

1885

1885

- Canada's transcontinental railway is completed



MAKING CONNECTIONS

Did Industry Improve Society?

Many factors promoted industrialization, including cheap labor, new inventions and technology, and plentiful raw materials. Railroads rapidly expanded, while government policies encouraged economic growth.

- *What changes in lifestyle do you think occurred because of industrialization?*
- *How do you think industrialization changed American politics?*

1886

- Haymarket riot occurs

1892

- Homestead strike occurs

B. Harrison
1889–1893



Cleveland
1893–1897



1894

- Pullman strike begins

McKinley
1897–1901



1901

- J.P. Morgan forms U.S. Steel

1895

1892

- Rudolf Diesel patents diesel engine

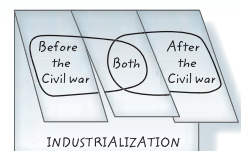
1895


- Louis and Auguste Lumière introduce motion pictures

FOLDABLES™

Analyzing Organizations Make a Three-Tab Book Foldable to help you analyze how the Civil War transformed the nature of industry.

As you read the chapter, write details under the corresponding tab.



History  **ONLINE Chapter Overview**
Visit glencoe.com to preview Chapter 12.

Section 1

The Rise of Industry

Guide to Reading

Big Ideas

Government and Society The United States government adopted a policy of laissez-faire economics, allowing business to expand.

Content Vocabulary

- gross national product (p. 410)
- laissez-faire (p. 414)
- entrepreneur (p. 415)

Academic Vocabulary

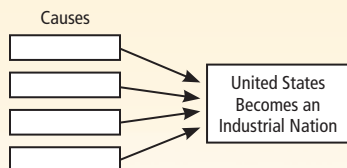
- resource (p. 410)
- practice (p. 415)

People and Events to Identify

- Edwin Drake (p. 410)
- Alexander Graham Bell (p. 412)
- Thomas Alva Edison (p. 412)
- Morrill Tariff (p. 415)

Reading Strategy

Organizing As you read about the changes brought about by industrialization, complete a graphic organizer similar to the one below, listing the causes of industrialization.



American business and industry grew rapidly after the end of the Civil War. Industrialization changed the way people lived and worked.

The United States Industrializes

MAIN Idea Natural resources and a large labor force allowed the United States to industrialize rapidly.

HISTORY AND YOU What natural resources are located in your area? Read to learn how the availability of raw materials encouraged industrialization.

Although the Industrial Revolution began in the United States in the early 1800s, most Americans still lived on farms. Out of a population of over 30 million, only 1.3 million Americans worked in industry when the Civil War began in 1861. After the war, industry rapidly expanded, and millions of Americans left their farms to work in mines and factories. Factories began to replace smaller workshops as complex machinery began to substitute for simpler hand tools.

By the late 1800s, the United States was the world's leading industrial nation. By 1914 the nation's **gross national product** (GNP)—the total value of all goods and services that a country produces—was eight times greater than it had been in 1865 when the Civil War came to an end.

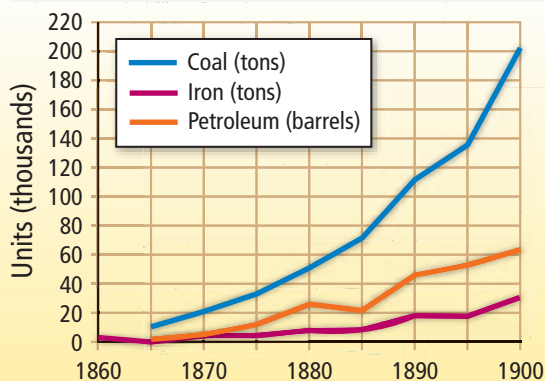
Natural Resources

An abundance of raw materials was one reason for the nation's industrial success. The United States had vast natural **resources**, including timber, coal, iron, and copper. This meant that American companies could obtain them cheaply and did not have to import them from other countries. Many of these resources were located in the American West. The settlement of this region helped accelerate industrialization, as did the transcontinental railroad. Railroads took settlers and miners to the region and carried resources back to factories in the East.

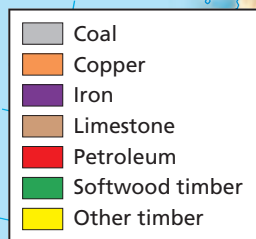
At the same time, people began using a new resource, petroleum. Even before the automotive age, petroleum was in high demand because it could be turned into kerosene. The American oil industry was built on the demand for kerosene, a fuel used in lanterns and stoves. The industry began in western Pennsylvania, where residents had long noticed oil bubbling to the surface of area springs and streams. In 1859 **Edwin Drake** drilled the first oil well near Titusville, Pennsylvania. By 1900 oil fields from Pennsylvania to Texas had been drilled. As oil production rose, it led to economic expansion.



Mineral Production, 1865–1900



Source: Historical Statistics of the United States.



0 400 kilometers
0 400 miles
Lambert Azimuthal Equal-Area projection

Analyzing GEOGRAPHY

- Region** For what natural resource were the states of West Virginia, Ohio, and Pennsylvania known?
- Human-Environment Interaction** Why do you think the first steel factories were built in Pennsylvania?

Maps in Motion See StudentWorks™ Plus or glencoe.com.

A Large Workforce

The human resources available to American industry were as important as natural resources in enabling the nation to industrialize rapidly. Between 1860 and 1910 the population of the United States nearly tripled. This population growth provided industry with an abundant workforce and also created greater demand for the consumer goods manufactured by factories.

Population growth stemmed from two causes—large families and a flood of immigrants. Because of better living conditions, more

children survived and grew to adulthood. American industry began to grow at a time when social and economic conditions in eastern Europe and China convinced many people to immigrate to the United States in search of a better life. Many were also seeking to escape oppressive governments and religious persecution. Between 1870 and 1910, more than 17 million immigrants arrived in the United States. These multitudes entered the growing industrial workforce, helped factories increase production, and became consumers of industrial products.

Reading Check **Explaining** How did oil production affect the American economy?

New Inventions

MAIN Idea During the late 1800s, inventions such as the telephone and the lightbulb spurred economic development.

HISTORY AND YOU What invention has most changed your daily life? Read about the new inventions of the late 1800s.

Natural resources and labor were essential to America's economic development, but new inventions and technology were important as well. New technology increased the nation's productivity and improved transportation and communications networks. New inventions also resulted in new industries, which in turn produced more wealth and jobs.

Bell and the Telephone

In 1874 a Scottish immigrant named **Alexander Graham Bell** suggested the idea of a telephone to his assistant, Thomas Watson. Watson recalled, "He had an idea by which he believed it would be possible to talk by telegraph."

Bell began experimenting with ways to transmit sound via an electrical current of varying intensity. In 1876 he succeeded. Picking up the crude telephone, he placed a call to the next room, saying, "Come here, Watson, I want you." Watson heard and came. The telephone revolutionized business and personal communication. In 1877 Bell organized the Bell Telephone Company, which eventually became the American Telephone and Telegraph Company (AT&T).

Edison, Westinghouse, and Electricity

Perhaps the leading pioneer in new technology was **Thomas Alva Edison**. Curious about the world from an early age, he learned all he could about the mechanical workings of objects. His laboratory at Menlo Park, New Jersey, was the forerunner of the modern research laboratory. Edison set up his lab with money he earned by improving the telegraph system for Western Union. He referred to it as an "invention factory." During the first five years Menlo Park existed, Edison patented an invention almost every

American Inventions, 1865–1895

1872

Elijah McCoy invents automatic lubricator for steam engines, allowing trains to run faster with less maintenance

1877

Thomas Edison develops phonograph



▲ Early Edison phonograph

1886

Josephine Cochrane develops automatic dishwasher; its basic design is still used today

1870

1875

1880

1885

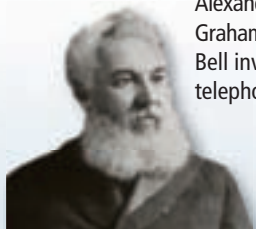
1873

Christopher Sholes develops typewriter and sells it to Remington and Sons



1876

Alexander Graham Bell invents telephone



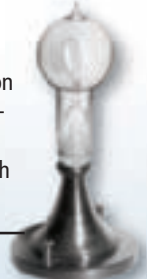
▲ Alexander Graham Bell



▲ Bell's first telephone

1882

Lewis Latimer invents the carbon filament for lightbulbs, allowing them to last much longer



▲ Edison's first commercial lightbulb

month. By the time he died, Edison held more than one thousand patents.

Edison first achieved international fame in 1877 with the invention of the phonograph. Two years later he perfected the electric generator and the lightbulb. Although Edison had expected to produce an inexpensive lightbulb in six weeks, the task took more than a year. His laboratory then went on to invent or improve several other major devices, including the battery, the dictaphone, and the motion picture.

An Edison company began to transform American society in 1882 when it started supplying electric power to New York City. In 1889 several Edison companies merged to form the Edison General Electric Company (today known as GE).

Engineer and industrialist George Westinghouse invented an air-brake system for railroads. Unlike earlier manual systems that required brakes to be applied to each car, Westinghouse's invention provided a continuous braking system, so that all the cars' brakes were applied at the same time. Because the

trains could brake rapidly and smoothly, they could safely travel at higher speeds.

Westinghouse also developed an alternating current (AC) system to distribute electricity using transformers and generators. Working with inventor Nikola Tesla, Westinghouse further improved his system. His Westinghouse Electric Company lit Chicago's Columbia Exhibition in 1893. It was also the first to use the hydroelectric power of Niagara Falls to generate electricity for streetcars and lights in Buffalo, New York, 22 miles away.

Technology's Impact

In ways big and small, technology changed the way people lived. Shortly after the Civil War, Thaddeus Lowe invented the ice machine, the basis of the refrigerator. In the early 1870s Gustavus Swift, founder of Swift Meatpacking, hired an engineer to develop a refrigerated railroad car. Swift shipped the first refrigerated load of fresh meat in 1877. The widespread use of refrigeration kept food fresh longer and reduced the risk of food poisoning.



1893

Charles and Frank Duryea invent gasoline-powered automobile



▲ *The Wright Flyer lifts off, December 17, 1903.*

1903

Wilbur and Orville Wright make first successful powered flight at Kitty Hawk, North Carolina

1890

1895

1900

1905

1888

George Eastman patents first hand-held camera, the Kodak



Analyzing TIME LINES

- 1. Sequencing** Did the invention of the phonograph occur before or after the invention of the typewriter?
- 2. Calculating** How much time elapsed between the invention of a gasoline-powered automobile and the first flight of the Wright brothers?
- 3. Identifying** For what invention is Josephine Cochrane known?

The textile industry had long depended on machines to turn fibers into cloth. By the mid-1800s, the introduction of the Northrop automatic loom allowed cloth to be made at a much faster rate. Bobbins, which had to be changed by hand, could now be changed automatically.

Changes also took place in the clothing industry. Standard sizes were used in making ready-made clothes. Power-driven sewing machines and cloth cutters rapidly moved the clothing business from small tailor shops to large factories. Similar changes took place in shoemaking. By 1900 cobblers had nearly disappeared.

Technology's impact also included improved communications. Cyrus Field laid a telegraph cable across the Atlantic Ocean in 1866. This cable provided instant contact between the United States and Europe.

Reading Check **Explaining** How did the use of electric power affect economic development?

Free Enterprise

MAIN Idea Laissez-faire economics promoted industrialization, but tariffs protected American companies from competition.

HISTORY AND YOU Do you remember how Americans objected to British taxes on trade before the American Revolution? Read how tariffs affected American industries in the late 1800s.

Another important reason the United States was able to industrialize rapidly was its free enterprise system. In the late 1800s, many Americans embraced the idea of **laissez-faire** (leh•say•FARE), a French phrase meaning “let people do as they choose.” Supporters of laissez-faire believe the government should not interfere in the economy other than to protect private property rights and maintain peace. They argue that if the government regulates the economy, it increases costs and eventually hurts society more than it helps.

POLITICAL CARTOONS PRIMARY SOURCE

Should Government Regulate the Economy?



◀ Entitled “The Consumer Consumed,” this cartoon shows a shopper being told that if he buys domestic goods, he has to pay extra money to trusts (monopolies), and if he buys foreign goods, he has to pay extra money (duties) to the government.

Analyzing VISUALS

DBQ

- 1. Interpreting** What is happening to American factories after the protection gate is opened?
- 2. Analyzing** What argument does the cartoon on the left give in favor of free trade?



The gate is labeled “Protection.” The flood is labeled “European manufactures.”

Several buildings are labeled “American factory.”

▲ The original caption for this cartoon read “Goods will be so much cheaper—Democratic argument. But what will happen to all the American factories?”

Laissez-faire relies on supply and demand, rather than the government, to regulate wages and prices. Supporters believe a free market with competing companies leads to greater efficiency and creates more wealth for everyone. Laissez-faire advocates also support low taxes and limited government debt to ensure that private individuals, not the government, will make most of the decisions about how the nation's wealth is spent.

In the late 1800s, the profit motive attracted many capable and ambitious people into business. **Entrepreneurs**—people who risk their capital to organize and run businesses—were attracted by the prospect of making money in manufacturing and transportation. Many entrepreneurs from New England, who had accumulated money by investing in trade, fishing, and textile mills, now invested in factories and railroads. An equally important source of private capital was Europe, especially Great Britain. Foreign investors saw great opportunities for profit in the United States.


In many ways, the United States **practiced** laissez-faire economics in the late 1800s. State and federal governments kept taxes and spending low. They did not impose costly regulations on industry or try to control wages and prices. In other ways, however, the government went beyond laissez-faire and introduced policies intended to promote business.

Since the early 1800s, leaders in the Northeast and the South had different ideas about the proper role of the government in the economy. Northern leaders wanted high tariffs to protect manufacturers from foreign competition and also supported federal subsidies for companies building roads, canals, and railroads. Southern leaders opposed subsidies and favored low tariffs to promote trade and to keep the cost of imported goods low.

The Civil War ended the debate. After the Southern states seceded, the Republican-controlled Congress passed the **Morrill Tariff**, which greatly increased tariff rates. By 1865 tariffs had nearly tripled. Congress also gave vast tracts of Western land and nearly \$65 million in loans to Western railroads, and sold public lands with mineral resources for much less than their market value.

In the late 1800s, the United States was one of the largest free trade areas in the world. The Constitution bans states from imposing tariffs, and there were few regulations on commerce or immigration. Supporters of laissez-faire say these factors played a major role in the country's tremendous economic growth.

High tariffs, however, contradicted laissez-faire ideas. When the nation raised tariffs on foreign goods, other countries raised their tariffs on American goods. This hurt American companies trying to sell goods abroad, particularly farmers who sold their products overseas. Despite these problems, many business leaders and members of Congress believed tariffs were necessary. Few believed that new American industries could compete with established European factories without tariffs to protect them. Later, in the early 1900s, after American companies had become large and efficient, business leaders began to push for free trade. They believed they could now compete internationally and win sales in foreign markets.

 **Reading Check** **Analyzing** Do you think government policies at this time helped or hindered industrialization? Why?

Section 1 REVIEW

Vocabulary

1. **Explain** the significance of: gross national product, Edwin Drake, Alexander Graham Bell, Thomas Alva Edison, laissez-faire, entrepreneur, Morrill Tariff.

Main Ideas

2. **Explaining** How did an abundance of natural resources contribute to economic growth in the United States in the late 1800s?
3. **Organizing** Use a graphic organizer similar to the one below to indicate how the inventions listed affected the nature of American work and business.

Invention	Effects
telephone	
lightbulb	
automatic loom	

4. **Describing** How did the principles of the free enterprise system, laissez-faire, and profit motive encourage the rise of industry?

Critical Thinking

5. **Big Ideas** What role did the federal government play in increasing industrialization after the Civil War?
6. **Analyzing Visuals** Examine the time line on pages 412–413. Choose one invention and explain how it changed society.

Writing About History

7. **Descriptive Writing** Imagine you are a young person living in this country in the late 1800s. Choose one of the inventions discussed in the section and write a journal entry describing its impact on your life.



Study Central To review this section, go to glencoe.com and click on Study Central.

Section 2

The Railroads

Guide to Reading

Big Ideas

Science and Technology The growth of railroads encouraged development of the Plains and Western regions.

Content Vocabulary

- time zone (p. 419)
- land grant (p. 420)

Academic Vocabulary

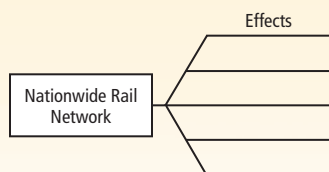
- integrate (p. 419)
- investor (p. 420)

People and Events to Identify

- Pacific Railway Act (p. 416)
- Grenville Dodge (p. 416)
- Leland Stanford (p. 417)
- Cornelius Vanderbilt (p. 419)
- Jay Gould (p. 420)
- Crédit Mobilier (p. 420)
- James J. Hill (p. 421)

Reading Strategy

Organizing As you read about the development of a nationwide rail network, complete a graphic organizer similar to the one below, listing the effects of this rail network on the nation.



Major railroads, including the transcontinental railroad, were constructed rapidly after the Civil War ended. Railroads required major capital investment and government land grants. The huge profits to be made, however, led to some corruption as well.

Linking the Nation

MAIN Idea After the Civil War, the rapid construction of railroads accelerated the nation's industrialization and linked the country together.

HISTORY AND YOU How has technology helped unify the United States in recent years? Read to learn how railroads helped connect the nation.

In 1865 the United States had about 35,000 miles of railroad track, almost all of it east of the Mississippi River. After the Civil War, railroad construction expanded dramatically, linking the distant regions of the nation in a transportation network. By 1900 the United States, now a booming industrial power, had more than 200,000 miles of track.

The Transcontinental Railroad

The railroad boom began in 1862, when President Abraham Lincoln signed the **Pacific Railway Act**. This act provided for the construction of a transcontinental railroad by two corporations. To encourage rapid construction, the government offered each company land along its right-of-way. A competition between the two companies developed, as each raced to obtain as much land and money as possible.

The Union Pacific Under the direction of engineer **Grenville Dodge**, a former Union general, the Union Pacific began pushing westward from Omaha, Nebraska, in 1865. The laborers faced blizzards in the mountains, scorching heat in the desert, and, sometimes, angry Native Americans. Labor, money, and engineering problems plagued the supervisors of the project. As Dodge observed:

PRIMARY SOURCE

"Everything—rails, ties, bridging, fastenings, all railway supplies, fuel for locomotives and trains, and supplies for men and animals on the entire work—had to be transported from the Missouri River."

—quoted in *The Growth of the American Republic*

The railroad workers of the Union Pacific included Civil War veterans, newly recruited Irish immigrants, frustrated miners and farmers, cooks, adventurers, and ex-convicts. At the height of the project, the Union

The Transcontinental Railroad Connects the Nation



▲ Led by Grenville Dodge (top right), workers built the Union Pacific Railroad from Omaha, across the Great Plains, to Utah. Many Irish immigrants worked on the railroad.



▲ Led by Theodore Judah (above, left), workers built the Central Pacific Railroad eastward from Sacramento, through the Rocky Mountains to Utah. Many Chinese immigrants worked on the railroad.



▲ The Union Pacific and Central Pacific met in Utah, where a ceremonial gold spike was driven, joining the two lines.

Analyzing VISUALS

- Analyzing** Based on the map and photos, why do you think Union Pacific workers were able to lay so many more miles of track than Central Pacific workers?
- Describing** Based on the photos, why do you think life as a railroad worker was so difficult?

Pacific employed about 10,000 workers. Camp life was rough, dirty, and dangerous, with lots of gambling, hard drinking, and fighting.

The Central Pacific The Central Pacific Railroad began as the dream of engineer Theodore Judah. He sold stock in his fledgling Central Pacific Railroad Company to four Sacramento merchants: grocer **Leland Stanford**, shop owner Charley Crocker, and hardware store owners Mark Hopkins and

Collis P. Huntington. These “Big Four” eventually made huge fortunes, and Stanford became governor of California, served as a United States senator, and founded Stanford University.

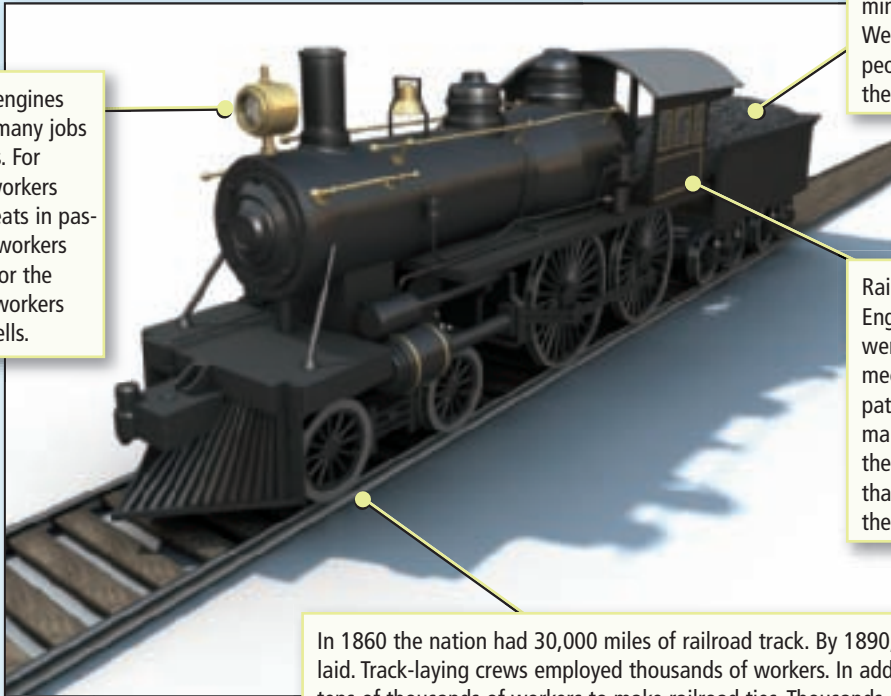
Because of a shortage of labor in California, the Central Pacific Railroad hired about 10,000 workers from China and paid them about \$1.00 a day. All the equipment—rails, cars, locomotives, and machinery—was shipped from the eastern United States, either around Cape Horn at the tip of South America or over the isthmus of Panama in Central America.

TECHNOLOGY & HISTORY

Railroads and the Economy Building the railroad system led to the creation of new technologies and jobs. Economists refer to this as the “multiplier effect.” Whenever a new technology becomes widely used, it creates many new jobs in other industries that are needed to support it.

Railroads greatly increased the demand for coal, both to power locomotives and to melt iron in steel refineries. This created a huge coal-mining industry in Pennsylvania and West Virginia. In 1860, some 36,000 people were coal miners; by 1889, there were more than 290,000.

Building railroad engines and cars created many jobs in other industries. For example, textile workers made fabric for seats in passenger cars, glassworkers made the lenses for the lamps, and metalworkers cast the bronze bells.



Railroads created many new jobs. Engineers, firemen, and brakemen were needed to run the trains; mechanics, machinists, oilers, dispatchers, track workers, loaders, and many others were needed to keep the railway running. By 1900, more than 1 million people worked for the railroads.

In 1860 the nation had 30,000 miles of railroad track. By 1890, another 130,000 miles had been laid. Track-laying crews employed thousands of workers. In addition, the lumber industry needed tens of thousands of workers to make railroad ties. Thousands of others worked in iron mines and in the steel industry, helping make rails, engine boilers, and other steel components.

History ONLINE
Student Web Activity Visit glencoe.com and complete the activity on industrialization.

The Last Spike Workers completed the Transcontinental Railroad in only four years, despite the physical challenges. Each mile of track required 400 rails; each rail took 10 spikes. The Central Pacific, starting from the west, laid a total of 688 miles of track. The Union Pacific laid 1,086 miles.

On May 10, 1869, hundreds of spectators gathered at Promontory Summit, Utah, to watch dignitaries hammer five gold and silver spikes into the final rails that would join the Union Pacific and Central Pacific. General Grenville Dodge was at the ceremony:

PRIMARY SOURCE

“The trains pulled up facing each other, each crowded with workmen. . . . The officers and invited guests formed on each side of the track. . . . Prayer was offered; a number of spikes were driven in the two adjoining rails . . . and thus the two roads were welded into one great trunk line from the Atlantic to the Pacific.”

—from *Mine Eyes Have Seen*

After Leland Stanford hammered in the last spike, telegraph operators sent the news across the nation. Cannons blasted in New York City, Chicago held a parade, and citizens in Philadelphia rang the Liberty Bell.

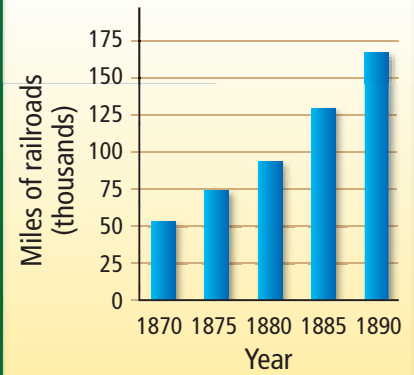
Railroads Spur Growth

The transcontinental railroad was the first of many lines that began crisscrossing the nation after the Civil War. By linking the nation, railroads increased the markets for many products, spurring American industrial growth. Railroads also stimulated the economy by spending huge amounts of money on steel, coal, timber, and other materials.

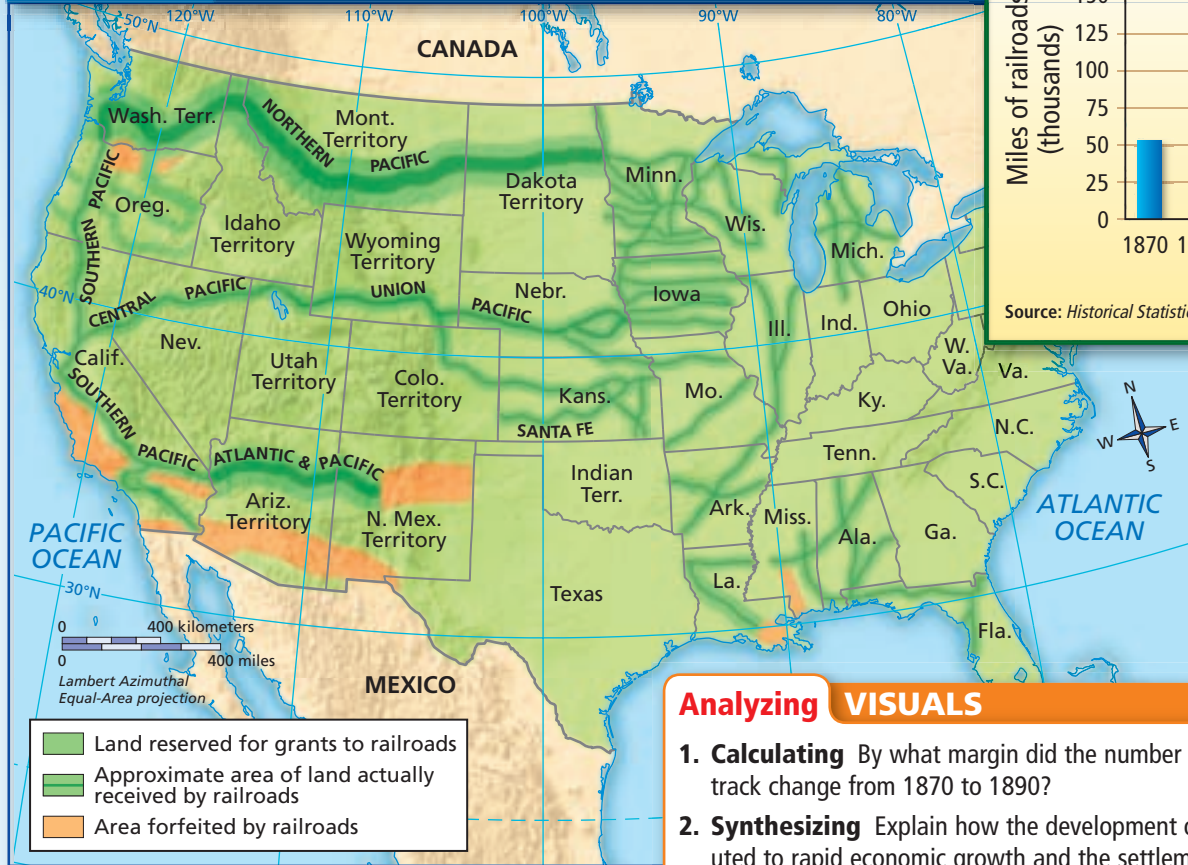
Hundreds of small, unconnected railroads had been built before the Civil War. Gradually, however, large rail lines took them over. By 1890, for example, the Pennsylvania Railroad had consolidated 73 smaller companies. Eventually, seven giant systems with terminals in major cities and scores of branches

Federal Land Grants to Railroads, 1870

Miles of Track, 1870–1890



Source: Historical Statistics of the United States.



Analyzing VISUALS

- Calculating** By what margin did the number of miles of laid track change from 1870 to 1890?
- Synthesizing** Explain how the development of railroads contributed to rapid economic growth and the settlement of the West.

reaching into the countryside controlled most rail traffic.

One of the most successful railroad consolidators was **Cornelius Vanderbilt**. By 1869, Vanderbilt had purchased and merged three short New York railroads to form the New York Central, running from New York City to Buffalo. Within four years he had extended his control over lines all the way to Chicago, which enabled him to offer the first direct rail service between New York City and Chicago. In 1871 Vanderbilt began building New York's Grand Central Terminal.

Before the 1880s each community set its clocks by the sun's position at noon. Having many local time zones interfered with train scheduling, however, and at times even threatened passenger safety. When two trains traveled on the same track, collisions could result from scheduling errors caused by variations in time. To make rail service safer and more reliable, the American Railway Association divided the country into four **time zones** in

1883. The federal government ratified this change in 1918.

Meanwhile, new locomotive technology and the invention of air brakes enabled railroads to put longer and heavier trains on their lines. When combined with large, **integrated** railroad systems, operations became so efficient that the average rate per mile for a ton of freight dropped from two cents in 1860 to three-quarters of a cent in 1900.

The nationwide rail network also helped unite Americans in different regions. The *Omaha Daily Republican* observed in 1883 that railroads had "made the people of the country homogeneous, breaking through the peculiarities and provincialisms which marked separate and unmingling sections." This was a bit of an overstatement, but it recognized that railroads were changing American society.

Reading Check **Explaining** Why was the country divided into four time zones?

Robber Barons

MAIN Idea The government helped finance railroad construction by providing land grants, but this system also led to corruption.

HISTORY AND YOU Have you heard of any recent financial scandals? Read to learn how government grants led to large-scale corruption.

Building railroad lines often required more money than most private **investors** could raise on their own. To encourage railroad construction across the Great Plains, the federal government gave **land grants** to many railroad companies. The railroads then sold the land to settlers, real estate companies, and other businesses to raise money to build the railroad.

During the 1850s and 1860s, the federal land grant system gave railroad companies more than 120 million acres of public land, an

area larger than New England, New York, and Pennsylvania combined. Several railroads, including the Union Pacific and Central Pacific, received enough land to cover most of the cost of building their lines.

The great wealth many railroad entrepreneurs acquired in the late 1800s led to accusations that they had built their fortunes by swindling investors and taxpayers, bribing officials, and cheating on their contracts and debts. Infamous for manipulating stock, **Jay Gould** was the most notoriously corrupt railroad owner.

Bribery occurred frequently, partly because government helped fund the railroads. Some investors quickly discovered that they could make more money by acquiring government land grants than by operating a railroad. To get more grants, some investors began bribing members of Congress.

POLITICAL CARTOONS PRIMARY SOURCE

The Robber Barons



▲ Jay Gould bowls on Wall Street with balls labeled "Trickery," and "False Reports." The pins are labeled "Banker," "Inexperienced Investor," "Small Operator," and "Stock Broker."



▲ Railroad owners Jay Gould (lower left), Cornelius Vanderbilt (upper left), Russell Sage (upper right), and Cyrus W. Field (lower right) carve up the United States. The figure in back is lowering an envelope to European royalty labeled "Sealed proposals for the purchase of Europe."

Analyzing VISUALS

DBQ

- Analyzing Visuals** What "pins" has Jay Gould managed to knock down, and what does this suggest?
- Interpreting** What do the faces and actions of the five men in the cartoon suggest?

The Crédit Mobilier Scandal

Corruption in the railroad industry became public in 1872, when the **Crédit Mobilier** scandal erupted. Crédit Mobilier (KRĀ•dē mō•bē•YĀ) was a construction company set up by several stockholders of the Union Pacific Railroad, including Oakes Ames, a member of Congress. Acting for both the Union Pacific and Crédit Mobilier, the investors signed contracts with themselves. Crédit Mobilier greatly overcharged Union Pacific and added miles to the railroad construction. Because the same investors controlled both companies, the railroad agreed to pay the inflated bills without questions.

By the time the Union Pacific railroad was completed, these investors had made millions of dollars, but the railroad itself had used up its federal grants and was almost bankrupt. To convince Congress to give the railroad more grants, Ames sold other members of Congress shares in the Union Pacific at a price well below their market value.


During the election campaign of 1872, an angry associate of Ames sent a letter to the *New York Sun* listing the members of Congress who had accepted shares. The scandal led to an investigation that implicated several members of Congress, including Speaker of the House James G. Blaine and Representative James Garfield, who later became president. It also revealed that Vice President Schuyler Colfax had accepted stock from the railroad. Neither criminal nor civil charges were filed against anyone involved with Crédit Mobilier, however, nor did the scandal affect the outcome of the elections.

The Great Northern Railroad

The Crédit Mobilier scandal created the impression that all railroad entrepreneurs were “robber barons”—people who loot an industry and give nothing back. Some, like Jay Gould, deserved this reputation, but others did not.

James J. Hill was clearly no robber baron. Hill built and operated the Great Northern Railroad from Wisconsin and Minnesota in the East to Washington in the West, without any federal land grants or subsidies. He had carefully planned the railroad’s route to pass close to established towns in the region.

To increase business, he offered low fares to settlers who homesteaded along his route. Later, he sold homesteads to the Norwegian and Swedish immigrants coming to the region. He then identified American products that were in demand in China, including cotton, textiles, and flour, and arranged to haul those goods to Washington for shipment to Asia. This enabled the railroad to earn money by hauling goods both east and west, instead of simply sending lumber and farm products east and coming back empty, as many other railroads did at that time. The Great Northern became the most successful transcontinental railroad and the only one that was not eventually forced into bankruptcy.

 **Describing** How was the Great Northern different from other railroads of its time?

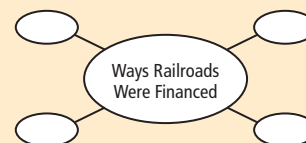
Section 2 REVIEW

Vocabulary

1. **Explain** the significance of: Pacific Railway Act, Grenville Dodge, Leland Stanford, Cornelius Vanderbilt, time zone, land grant, Jay Gould, Crédit Mobilier, James J. Hill.

Main Ideas

2. **Describing** How did Grenville Dodge contribute to the economic growth of the United States in the late 1800s?
3. **Listing** Use a graphic organizer similar to the one below to list the different ways by which railroads were financed.



Critical Thinking

4. **Big Ideas** How did railroad expansion lead to industrial growth?
5. **Theorizing** Why might politicians be tempted to accept gifts of railroad stock? Why did Crédit Mobilier become a scandal?
6. **Analyzing Visuals** Examine the map and graph on page 419. Then make up a quiz of at least five questions based on the information presented.

Writing About History

7. **Persuasive Writing** Take on the role of an employee of a major railroad corporation. Your job is to write an advertisement to recruit workers for your corporation. After writing the advertisement, present it to your class.



Study Central To review this section, go to glencoe.com and click on Study Central.

Section 3

Big Business

Guide to Reading

Big Ideas

Economics and Society Business people such as Andrew Carnegie developed new ways to expand business.

Content Vocabulary

- corporation (p. 422)
- stock (p. 422)
- economies of scale (p. 422)
- pool (p. 424)
- vertical integration (p. 425)
- horizontal integration (p. 425)
- monopoly (p. 425)
- trust (p. 426)
- holding company (p. 426)

Academic Vocabulary

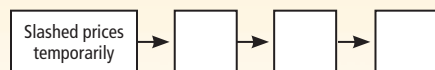
- distribution (p. 422)
- consumer (p. 424)

People and Events to Identify

- Andrew Carnegie (p. 424)
- John D. Rockefeller (p. 425)

Reading Strategy

Organizing As you read about the rise of corporations in the United States, complete a graphic organizer showing the steps large business owners took to weaken or eliminate competition.



Following the Civil War, large corporations developed that could consolidate various business functions and produce goods more efficiently. Retail stores began using advertising and mail-order catalogs to attract new consumers.

The Rise of Big Business

MAIN Idea Corporations could produce goods more efficiently, which allowed the rise of big business.

HISTORY AND YOU Do you own stock in a corporation or know someone who does? Read to learn why corporations issue stock.

Before the Civil War, most manufacturing enterprises were owned by just a few people working in partnership. Everything had changed by 1900. Big businesses dominated the economy, operating vast complexes of factories, warehouses, and **distribution** facilities.

Big business would not have been possible without the **corporation**. A corporation is an organization owned by many people but treated by law as though it were a person. It can own property, pay taxes, make contracts, and sue and be sued. The people who own the corporation are called stockholders because they own shares of ownership called **stock**. Issuing stock allows a corporation to raise large amounts of money for big projects while spreading out the financial risk.

Before the 1830s there were few corporations, because entrepreneurs had to convince a state legislature to issue them a charter. In the 1830s, however, states began passing general incorporation laws, allowing companies to become corporations and issue stock without charters from the legislature.

With the money they raised from the sale of stock, corporations could invest in new technologies, hire large workforces, and purchase many machines, greatly increasing their efficiency. This enabled them to achieve **economies of scale**: the cost of manufacturing is decreased by producing goods quickly in large quantities.

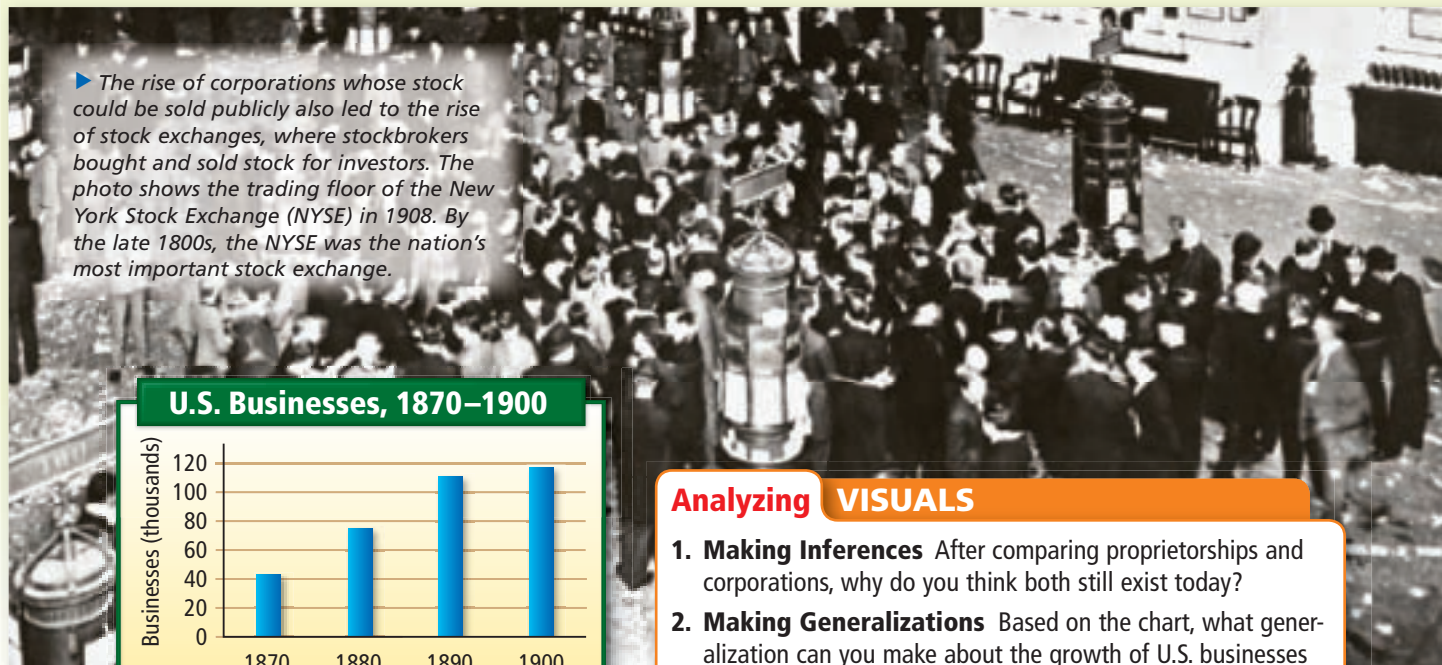
All businesses have two kinds of costs, fixed costs and operating costs. Fixed costs are costs a company has to pay, whether or not it is operating. For example, a company has to pay its loans, mortgages, and taxes, regardless of whether it is operating. Operating costs are costs that occur when running a company, such as paying wages and shipping costs and buying raw materials and supplies.

The small manufacturers that were common before the Civil War usually had low fixed costs but high operating costs. If sales dropped, it was cheaper to shut down temporarily. Big manufacturers,

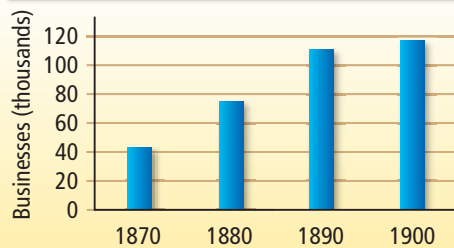
Types of Business Organizations

	Sole proprietorship	Partnership	Corporation
Who owns the business?	One person owns the business and often manages it	Two or more people own and manage the business	All investors who own its stock; managers are hired
How is money raised?	Owner uses savings and borrows money from a bank	Partners each invest some of their own money and borrow money from a bank	Shares of stock are sold to finance business; bank loans are also used
Advantages	Easy to start Low fixed costs, as facilities are usually small and inexpensive to maintain	Partners share responsibility for running the business Low fixed costs	Limited liability for investors Low operating costs; can stay open if economy slows
Disadvantages	Difficult to raise money; limited opportunities for growth; owner has unlimited liability; high operating costs may force business to shut down if the economy is weak	Partners may disagree on direction the company should take; owners have unlimited liability High operating costs	Often have high fixed costs because of size of facilities and equipment needed

► The rise of corporations whose stock could be sold publicly also led to the rise of stock exchanges, where stockbrokers bought and sold stock for investors. The photo shows the trading floor of the New York Stock Exchange (NYSE) in 1908. By the late 1800s, the NYSE was the nation's most important stock exchange.



U.S. Businesses, 1870–1900



Source: *Historical Statistics of the United States*.

Analyzing VISUALS

- 1. Making Inferences** After comparing proprietorships and corporations, why do you think both still exist today?
- 2. Making Generalizations** Based on the chart, what generalization can you make about the growth of U.S. businesses during those three decades? What explanation can you offer?

however, had the high fixed costs of building and maintaining a factory. Compared to their fixed costs, the operating costs of big businesses were low. Operating costs, such as wages, were such a small part of a corporation's costs that it made sense to continue operating, even in a recession.

In these circumstances, big corporations had several advantages. They could produce more goods cheaply and efficiently. They could continue to operate in poor economic times by cutting prices to increase sales rather than shutting down. Many were also able to negotiate rebates from the railroads, further lowering their operating costs.

Small businesses with high operating costs found it difficult to compete with large corporations, and many were forced out of business. At the time, many people criticized corporations for cutting prices and negotiating rebates. They believed the corporations were behaving unethically by driving small companies out of business. In many cases, it was the changing nature of business organization and the new importance of fixed costs that caused competition to become so severe and led to so many small companies going out of business.



Reading Check

Describing What factors led to the rise of big business in the United States?

Consolidating Industry

MAIN Idea Business leaders devised new and larger forms of business organizations and new ways to promote their products.

HISTORY AND YOU How does advertising reach you today? How has technology created new ways to market and sell goods? Read to learn how an increase in new products led to new selling methods.

Many business leaders did not like the intense competition that had been forced on them. Although falling prices benefited **consumers**, they cut into profits. To stop prices from falling, many companies organized **pools**, or agreements, to keep prices at a certain level.

American courts and legislatures were suspicious of pools because they interfered with competition and property rights. As a result, companies that formed pools had no legal protection and could not enforce their agreements in court. Pools generally did not last long anyway. They broke apart whenever one member cut prices to steal the market share from another. By the 1870s, competition had reduced many industries to a few large and highly efficient corporations.

Andrew Carnegie and Steel

The remarkable life of **Andrew Carnegie** illustrates many of the factors that led to the rise of big business in the United States. Born in Scotland, Carnegie was the son of a poor hand weaver who moved to the United States in 1848. At age 12, Carnegie went to work as a bobbin boy in a textile factory earning \$1.20 per week. After two years, he became a messenger in a telegraph office, then worked as secretary to Thomas Scott, a superintendent and, later, president of the Pennsylvania Railroad. Carnegie's energy impressed Scott, and when Scott was promoted, Carnegie became the new superintendent.

As a railroad supervisor, Carnegie knew that he could make a lot of money by investing in companies that served the railroad industry. He bought shares in iron mills and factories that made sleeping cars and locomotives. He also invested in a company that built railroad bridges. By his early 30s, he was earning \$50,000 per year and decided to quit his job to concentrate on his own business investments.

As part of his business activities, Carnegie frequently traveled to Europe. On one trip, he

INFOGRAPHIC

The Rise of the Steel Industry

Several factors led to the rise of big business in the late 1800s: the use of new technology, the advantages of economies of scale, and the process of vertical and horizontal integration.

Coke, iron ore, and limestone are hoisted to the top of the blast furnace and sprinkled into the furnace. Blasts of super-hot air melt the ore as it falls.

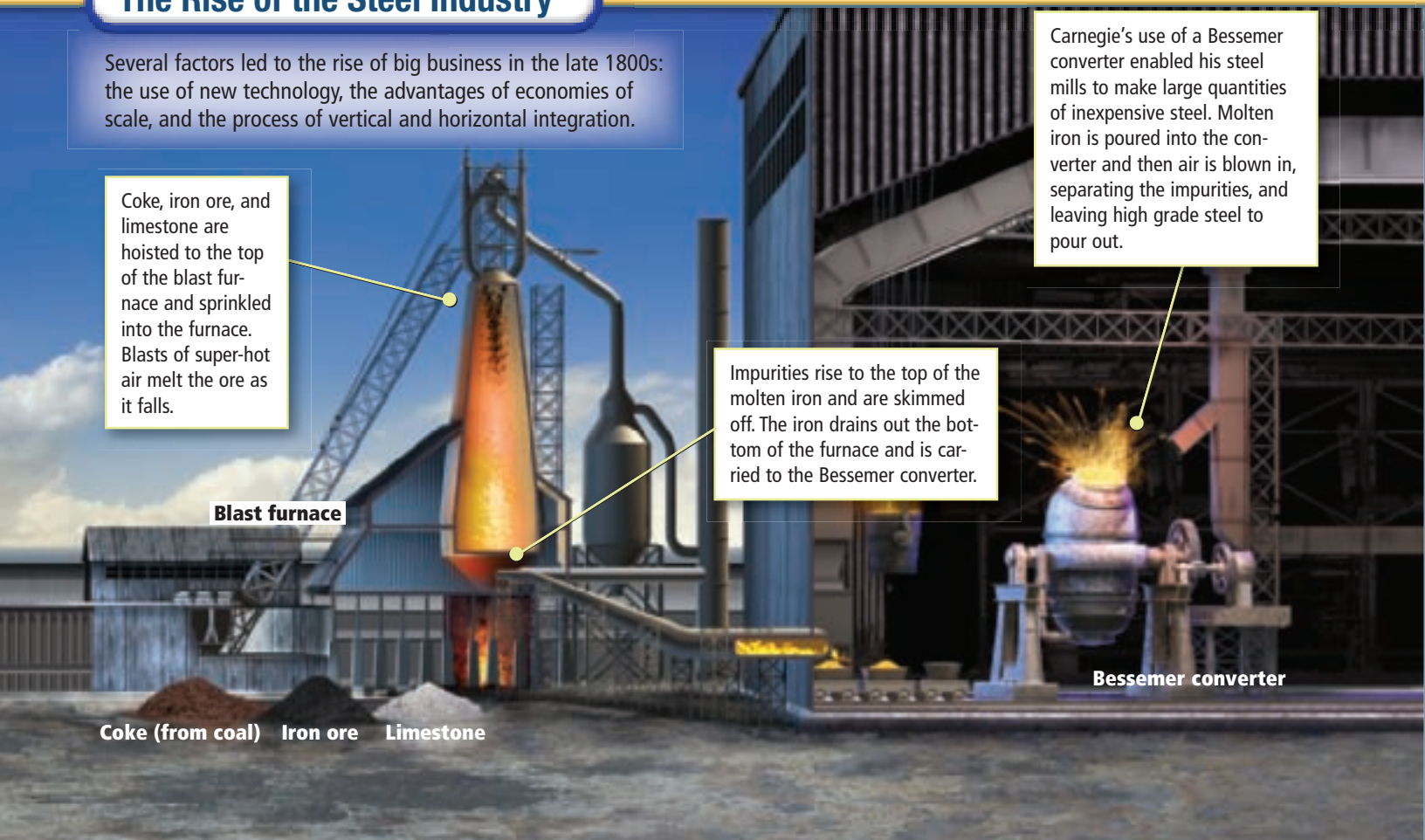
Blast furnace

Impurities rise to the top of the molten iron and are skimmed off. The iron drains out the bottom of the furnace and is carried to the Bessemer converter.

Carnegie's use of a Bessemer converter enabled his steel mills to make large quantities of inexpensive steel. Molten iron is poured into the converter and then air is blown in, separating the impurities, and leaving high grade steel to pour out.

Bessemer converter

Coke (from coal) Iron ore Limestone



met Sir Henry Bessemer, who had invented a new process for making high-quality steel efficiently and cheaply. After meeting Bessemer, Carnegie opened a steel company in Pittsburgh in 1875 and began using the Bessemer process. Carnegie often boasted about how cheaply he could produce steel:

PRIMARY SOURCE

"Two pounds of iron stone mined upon Lake Superior and transported nine hundred miles to Pittsburgh; one pound and one-half of coal mined and manufactured into coke, and transported to Pittsburgh; one-half pound of lime, mined and transported to Pittsburgh; a small amount of manganese ore mined in Virginia and brought to Pittsburgh—and these four pounds of materials manufactured into one pound of steel, for which the consumer pays one cent."

—quoted in *The Growth of the American Republic*

To make his company more efficient, Carnegie began the **vertical integration** of the steel industry. A vertically integrated company owns all of the different businesses on which it depends for its operation. Instead of paying companies for coal, lime, and iron, Carnegie's steel company bought coal mines,

limestone quarries, and iron ore fields. Vertical integration saved money and enabled many companies to become even bigger.

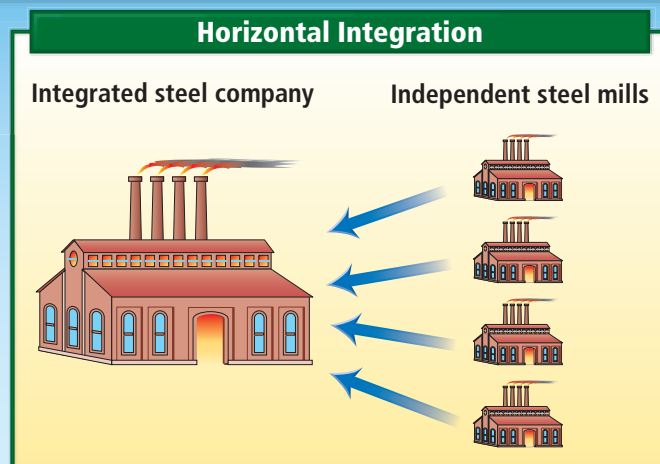
Rockefeller and Standard Oil

Successful business leaders also pushed for **horizontal integration**, or combining firms in the same business into one large corporation. Horizontal integration took place as companies competed. When a company began to lose market share, it would often sell out to competitors to create a larger organization.

Perhaps the most famous industrialist who achieved almost complete horizontal integration of his industry is **John D. Rockefeller**. When oil was discovered in Pennsylvania, many entrepreneurs started drilling for oil, hoping to strike it rich. Rockefeller decided to build oil refineries instead. By 1870, his company, Standard Oil, was the nation's largest oil refiner. He then began buying out his competitors. By 1880, the company controlled about 90 percent of the oil-refining industry in the United States. When a single company achieves control of an entire market, it becomes a **monopoly**.



▲ In a vertically integrated industry, a company owns all parts of the industrial process. In this case, a steel company owns the iron and coal mines, the limestone quarries, and the ships and trains that move the materials, as well as the steel mills.



▲ When one company grows by buying up its competitors, it is using horizontal integration to expand.

Analyzing VISUALS

- Analyzing Visuals** What enabled entrepreneurs such as Andrew Carnegie to build large steel factories?
- Explaining** Why did business owners want to vertically integrate their companies?

People IN HISTORY

John D. Rockefeller 1839–1937

John Davison Rockefeller was one of the foremost industrialists of the late 1800s. Born in upstate New York, Rockefeller moved with his family to Cleveland, Ohio, as a teenager. As a young man, he established a grain and livestock business that made huge profits during the Civil War.

Meanwhile, Cleveland had emerged as a center for refining the oil extracted from the oil fields of western Pennsylvania. In 1863 Rockefeller used his wartime profits to start an oil-refining company. He then began buying up other oil refineries. In 1870 Rockefeller and some associates founded the Standard Oil Company. Rockefeller invested in the newest and most efficient refining technology. He also became known for using ruthless tactics to get preferential shipping rates from railroad companies and acquire competing oil refineries.

By the early 1880s, Rockefeller had created the Standard Oil Trust. With a near-monopoly on American oil refining, Standard Oil made Rockefeller one of the richest men in the world. Rockefeller later donated much of his wealth to philanthropic causes, most notably funding colleges and universities.

What made Standard Oil so successful?



J. P. Morgan 1837–1913

John Pierpont Morgan, the most powerful and influential financier of his era, built a financial empire that became known as the “House of Morgan.” The son of a successful Boston banker, Morgan began his career working in the New York City branch of his father’s bank.

Morgan soon developed a reputation for shrewd business sense. He specialized in financing railroads, an industry plagued by cut-throat competition and instability. Before Morgan would agree to rescue a troubled railroad company, he insisted the company reorganize to become more efficient, combine smaller railway lines to create a larger coordinated railroad system, and agree to have a representative from Morgan’s firm oversee future decisions.

During the depression of the 1890s, Morgan used his immense fortune to finance a bond to rescue the federal government’s depleted gold reserve. In 1901 Morgan made history when he organized the first billion-dollar corporation, U.S. Steel, by merging the Carnegie Steel Company and several other steel companies.

How did Morgan try to help the railroad industry?



New Business Organizations

Many Americans feared monopolies because they believed that a monopoly could charge whatever it wanted for its products. Others, however, believed that monopolies had to keep prices low because raising prices would encourage competitors to reappear and offer the products for a lower price. In some industries, one company had a near-monopoly in the United States but was competing on a global scale. Standard Oil, for example, came very close to having a monopoly in the United States, but international competition forced the company to keep its prices low in the late 1800s and early 1900s.

In the late 1800s, in an effort to stop horizontal integration and the rise of monopolies, many states made it illegal for one company to own stock in another company. It did not take long, however, for companies to discover ways around the laws.

Trusts In 1882 Standard Oil formed the first **trust**, a new way of merging businesses that did not violate such laws. A trust is a legal arrangement that allows one person to man-

age another person’s property. The person who manages that property is called a trustee.

Instead of buying a company outright, Standard Oil had stockholders give their stocks to a group of Standard Oil trustees. In exchange, the stockholders received shares in the trust, which entitled them to a portion of the trust’s profits. Since the trustees did not own the stock but were merely managing it, they were not violating any laws. The trustees could control a group of companies as if they were one large, merged company.

Holding Companies Beginning in 1889, the state of New Jersey further accelerated the rise of big business with a new general incorporation law. This law allowed corporations chartered in New Jersey to own stock in other businesses without any need for special legislative action. Many companies immediately used the law to create a new organization, the **holding company**. A holding company does not produce anything itself. Instead, it owns the stock of companies that do produce goods. The holding company manages the companies it owns, effectively merging them into one large enterprise.

Investment Banking Another increase in the size of corporations began in the mid-1890s, when investment bankers began to help put new holding companies together. Perhaps the most famous and successful investment banker of the era was J. P. Morgan. John Pierpont Morgan began his career in 1857 as an agent for his father's banking company in New York, America's financial capital. Investment bankers like Morgan specialized in helping companies issue stock. Companies would sell large blocks of stock to investment bankers at a discount. The bankers would then find people willing to buy the stock and sell it for a profit.

In the mid-1890s, investment bankers became interested in selling stock in holding companies that merged many of America's already large corporations. In 1901, J. P. Morgan bought out Andrew Carnegie. Morgan then merged Carnegie Steel with other large steel companies into an enormous holding company called the United States Steel Company. U.S. Steel, worth \$1.4 billion, was the first billion-dollar company in American history. By 1904, the United States had 318 holding companies. Together, these giant corporations controlled over 5,300 factories and were worth more than \$7 billion.


Selling the Product

The creation of giant manufacturing companies in the United States forced retailers—companies that sell products directly to consumers—to expand in size as well. The vast array of products that American industries produced led retailers to look for new ways to attract consumers. N. W. Ayer and Son, the first advertising company, began creating large illustrated ads instead of relying on the old small print line ads previously used in newspapers. By 1900, retailers were spending over \$90 million a year on advertising in newspapers and magazines.

Advertising attracted readers to the newest retail business, the department store. In 1877 advertisements billed John Wanamaker's new Philadelphia department store, the Grand Depot, as the "largest space in the world devoted to retail selling on a single floor." When it opened, only a handful of department stores existed in the United States; soon hundreds sprang up. Department stores provided a huge selection of products in one large, elegant building. The store atmosphere made shopping seem glamorous and exciting.

Chain stores, a group of retail outlets owned by the same company, first appeared in the mid-1800s. In contrast to department stores, which offered many services, chain stores focused on offering low prices. Woolworth's, which opened in 1879, became one of the most successful retail chains in American history.

To reach the millions of people who lived in rural areas far from chain stores or department stores, retailers began issuing mail-order catalogs. Two of the largest mail-order retailers were Montgomery Ward and Sears, Roebuck and Co. Their huge catalogs, widely distributed through the mail, used attractive illustrations and appealing descriptions to advertise thousands of items for sale.

 **Explaining** What techniques did corporations use to consolidate their industries?

Section 3 REVIEW

Vocabulary

1. **Explain** the significance of: corporation, stock, economies of scale, pool, Andrew Carnegie, vertical integration, horizontal integration, John D. Rockefeller, monopoly, trust, holding company.

Main Ideas

2. **Stating** Why did the number of corporations increase in the late 1800s?
3. **Comparing** Use a graphic organizer to list ways business leaders in the 1800s tried to eliminate competition.



Critical Thinking

4. **Big Ideas** What techniques were used by Carnegie and others to consolidate their industries? How did state governments respond?
5. **Forming an Opinion** Do you think an individual today can rise from "rags to riches" like Andrew Carnegie did? Why or why not?
6. **Analyzing Visuals** Look again at the chart on page 423. During which decade did the number of U.S. businesses increase the most? By how many?

Writing About History

7. **Expository Writing** Write a newspaper editorial in which you explain why entrepreneurs were a positive or a negative force on the U.S. economy in the late 1800s.



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Section 4

Unions

Guide to Reading

Big Ideas

Struggles for Rights Unions grew and labor unrest intensified as workers fought for more rights.

Content Vocabulary

- deflation (p. 428)
- trade union (p. 429)
- industrial union (p. 429)
- blacklist (p. 429)
- lockout (p. 430)
- arbitration (p. 432)
- injunction (p. 433)
- closed shop (p. 434)

Academic Vocabulary

- restraint (p. 430)
- constitute (p. 435)

People and Events to Identify

- Marxism (p. 430)
- Knights of Labor (p. 432)
- American Federation of Labor (p. 434)
- Samuel Gompers (p. 434)

Reading Strategy

Sequencing As you read about the increase of American labor unions in the late 1800s, complete a time line similar to the one below by filling in the incidents of labor unrest discussed and the results of each incident.



Workers tried to form unions in the late 1800s, hoping to improve wages, hours, and working conditions. Business leaders were willing to deal with some trade unions but generally opposed industrial unions. Many strikes in this era led to violence, which hurt the image of unions and slowed their growth.

Working in the United States

MAIN Idea Low wages, long hours, and difficult working conditions caused resentment among workers and led to efforts to organize unions.

HISTORY AND YOU Have you ever felt that you were underpaid for an after-school job? Read about the conditions that made workers want to organize.

Life for workers in industrial America was difficult. Many workers had to perform dull, repetitive tasks in working conditions that were often unhealthy and dangerous. Workers breathed in lint, dust, and toxic fumes. Heavy machines lacking safety devices caused many injuries. Despite the difficult working conditions, industrialism led to a dramatic rise in the standard of living. The average worker's wages rose by 50 percent between 1860 and 1890. Nonetheless, the uneven division of income between the wealthy and the working class caused resentment among workers. In 1900 the average industrial worker made 22¢ per hour and worked 59 hours per week.

Deflation, or a rise in the value of money, added to tensions between workers and employers. Between 1865 and 1897, deflation caused prices to fall, which increased the buying power of workers' wages. Although companies cut wages regularly in the late 1800s, prices fell even faster, so that wages were actually still going up in buying power. Workers, however, resented getting less money. Eventually, many concluded that they needed a union to bargain for them in order to get higher wages and better working conditions.

Early Unions

There were two basic types of industrial workers in the United States in the 1800s—craft workers and common laborers. Craft workers had special skills and training. They included machinists, iron molders, stonecutters, shoemakers, printers, and many others. Craft workers received higher wages and had more control over how they organized their time. Common laborers had few skills and received lower wages.

PRIMARY SOURCE

Why Did Workers Want to Organize?

In 1893 a recession hit the United States; by 1894, millions of workers were unemployed and over 750,000 were on strike. A former quarry foreman named Jacob Coxey organized unemployed workers and began a march on Washington to demand jobs on public works projects. The marchers were known as "Coxey's Army."



▲ Whether they were working in Western silver mines (top photo) or handling hot steel at a Pittsburgh foundry (above), workers toiled in unsafe conditions for very little money.

Annual Nonfarm Earnings



Source: Historical Statistics of the United States.

Analyzing VISUALS

- Analyzing** What do you observe about the working conditions and equipment of the men in both of the inset photos?
- Contrasting** What happened to real wages and those not adjusted for inflation between 1865 and 1900? Given this fact, why do you think workers wanted to organize?

In the 1830s, as industrialization began to spread, craft workers began to form **trade unions**. By 1873 there were 32 national trade unions in the United States. Among the largest and most successful were the Iron Molders' International Union, the International Typographical Union, and the Knights of St. Crispin—the shoemakers' union.

Industry Opposes Unions Employers often had to negotiate with trade unions because they represented workers whose skills

they needed. However, employers generally viewed unions as conspiracies that interfered with property rights. Business leaders particularly opposed **industrial unions**, which united all workers in a particular industry.

Companies used several techniques to stop workers from forming unions. They required workers to take oaths or sign contracts promising not to join a union. They hired detectives to identify union organizers. Workers who tried to organize a union or strike were fired and placed on a **blacklist**—a list of "troublemakers"—so that no company would hire them.

When workers formed a union, companies used “**lockouts**” to break it. They locked workers out of the property and refused to pay them. If the union called a strike, employers would hire replacements, or strikebreakers.

Political and Social Opposition Efforts to break unions often succeeded because there were no laws giving workers the right to form unions or requiring owners to negotiate with them. Courts frequently ruled that strikes were “conspiracies in **restraint** of trade,” for which labor leaders might be fined or jailed.

Unions also suffered from the perception that they were un-American. In the 1800s, the ideas of Karl Marx, called **Marxism**, became very influential in Europe. Marx argued that the basic force shaping capitalist society was the class struggle between workers and owners. He believed that workers would eventually revolt, seize control of the factories, and overthrow the government.

Marxists claimed that after the revolution the government would seize all private property and create a socialist society where wealth was evenly

divided. Eventually, Marx thought, the state would disappear, leaving a communist society where classes did not exist.

While many labor supporters agreed with Marx, a few supported anarchism. Anarchists believe that society does not need any government. At the time, some believed that with only a few acts of violence they could ignite a revolution to topple the government. In the late 1800s, anarchists assassinated government officials and set off bombs all across Europe, hoping to trigger a revolution.

During the same period, tens of thousands of European immigrants headed to America. Anti-immigrant feelings were already strong in the United States and, as people began to associate immigrant workers with radical ideas, they became suspicious of unions. These fears, and concerns for law and order, often led officials to use the courts, the police, and even the army to crush strikes and break up unions.

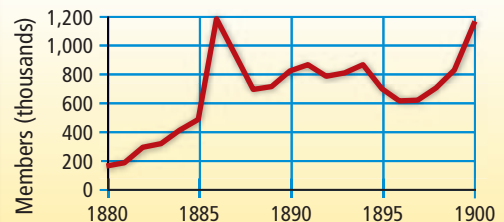
Reading Check **Identifying** Why were some Americans suspicious of unions?

INFOGRAPHIC

Working in the United States, 1870–1900

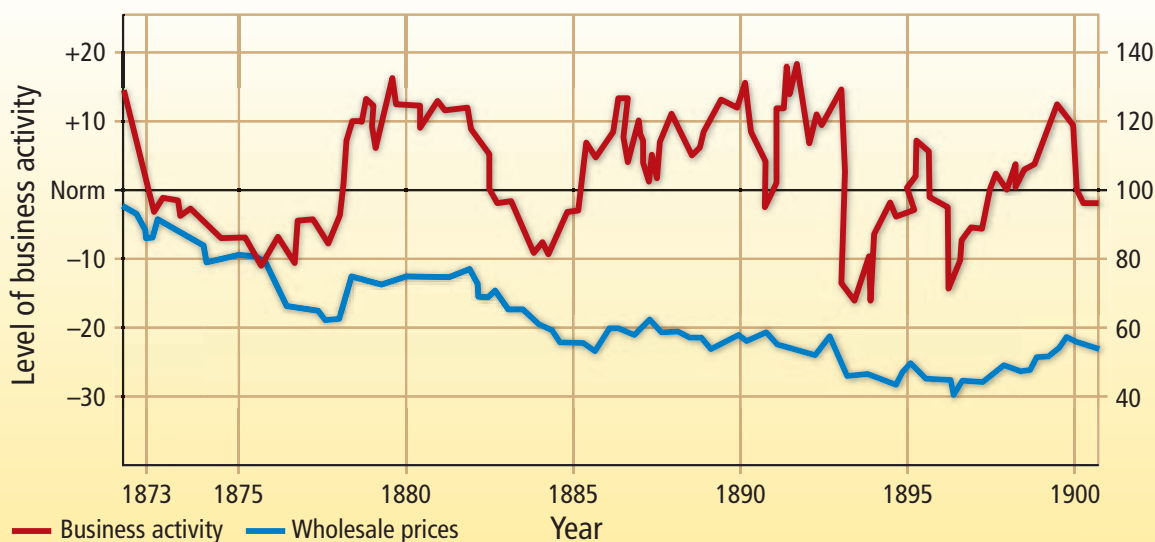
The status of the American economy played an important role in the development of unions. Although union membership rose dramatically by 1900, the willingness of people to join unions at any given time varied depending on how well the economy was doing.

Union Membership, 1880–1900



Sources: *New Estimates of Union Membership*; *The Growth of American Trade Unions*.

The U.S. Economy, 1870–1900



Source: *The Great Republic*.

Struggling to Organize

MAIN Idea Workers began to form unions to fight for better wages and working conditions but had few successes.

HISTORY AND YOU Do you sometimes feel that you spend too many hours a day in school? Read to learn how workers sought an eight-hour workday.

Although workers attempted on many occasions to create large industrial unions, they rarely succeeded. In many cases the confrontations with owners and the government led to violence and bloodshed. In 1868 William Sylvis, president of the Iron Molders' Union, wrote to Karl Marx in support of his work and to express his own beliefs:

PRIMARY SOURCE

"... monied power is fast eating up the substance of the people. We have made war upon it, and we mean to win it. If we can we will win through the ballot box; if not, we will resort to sterner means. A little bloodletting is sometimes necessary in desperate causes."

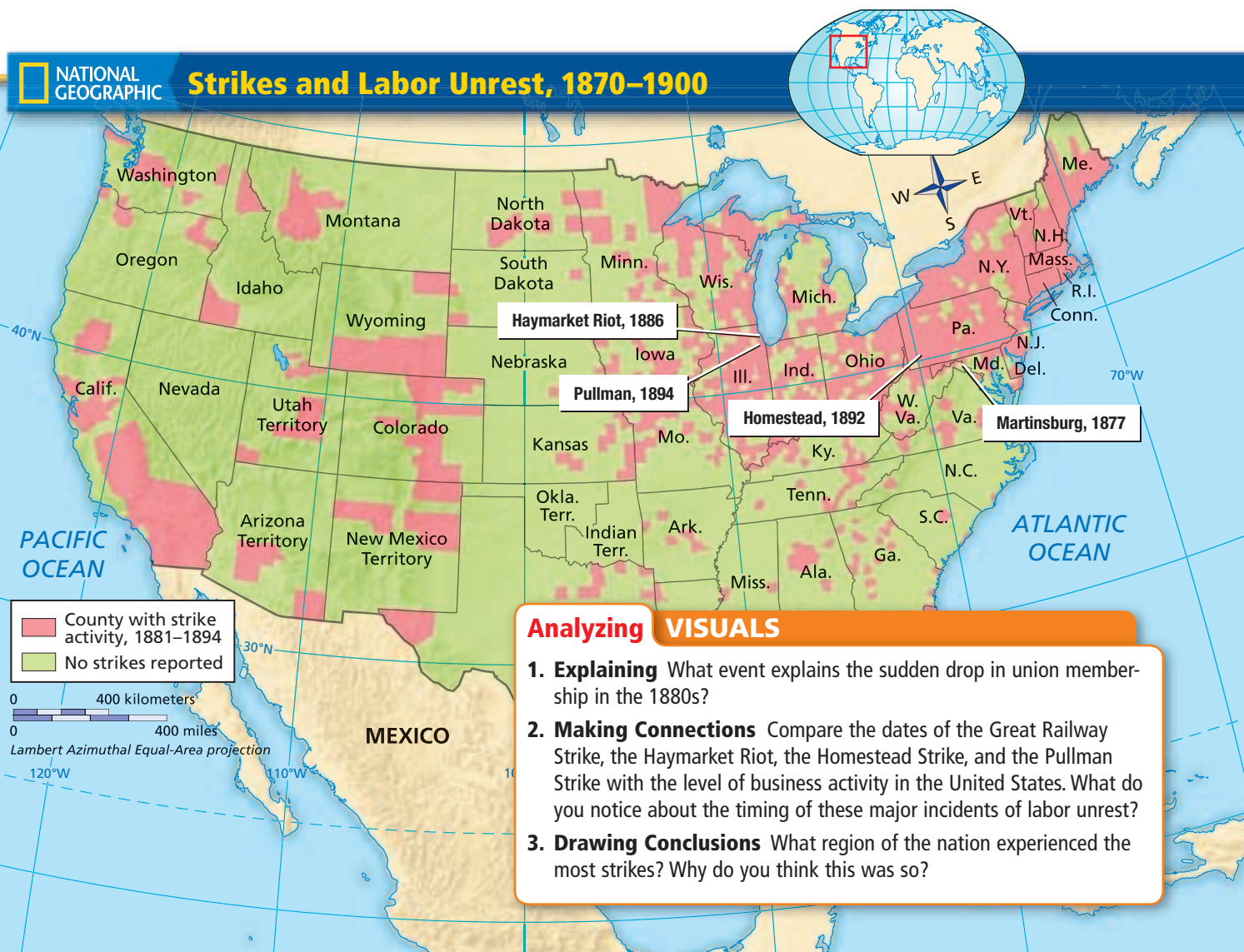
—quoted in *Industrialism and the American Worker*

The Great Railroad Strike

The panic of 1873 was a severe recession that struck the American economy and forced many companies to cut wages. The economy had still not recovered when, in July 1877, the Baltimore and Ohio Railroad announced it was cutting wages, for the third time. In Martinsburg, West Virginia, workers walked off the job and blocked the tracks.

As word spread, railroad workers across the country walked off the job. The strike eventually involved 80,000 railroad workers and affected two-thirds of the nation's railways. Angry strikers smashed equipment, tore up tracks, and blocked rail service in New York, Baltimore, Pittsburgh, St. Louis, and Chicago. The governors of several states called out their militias. In many places, gun battles erupted between the militia and the strikers.

Declaring a state of "insurrection," President Hayes sent federal troops to Martinsburg, Baltimore, Pittsburgh, and elsewhere. It took 12 bloody days for police, state militias, and



federal troops to restore order. By the time the strike collapsed, more than 100 people lay dead, and over \$10 million in railroad property had been destroyed. The violence of this strike alarmed many Americans and pointed to the need for more peaceful means to settle labor disputes.

The Knights of Labor

The **Knights of Labor**, founded in 1869, took a different approach to labor issues. Its leader, Terrence Powderly, opposed strikes, preferring to use boycotts to pressure employers. The Knights of Labor also supported **arbitration**, a process in which a third party helps workers and employers reach an agreement. The Knights called for an eight-hour workday and supported equal pay for women, the abolition of child labor, and the creation of worker-owned factories. Unlike many organizations of the era, the Knights welcomed women and African Americans as members.

Early Successes In the early 1880s, the Knights began to use strikes and were initially successful. After they convinced one of Jay Gould's railroads to reverse wage cuts in 1885, membership in the union soared. In less than one year, the Knights grew from 100,000 to 700,000 members. Then, in the spring of 1886, an event known as the Haymarket Riot undermined the Knights' reputation.

The Haymarket Riot In 1886 supporters of the eight-hour workday called for a nationwide strike on May 1st. On that date, strikes took place in many cities. In Chicago, the local Knights of Labor led a march of 80,000 people through the center of the city on that date. Over the next few days, nearly 70,000 workers went on strike across the city.

On May 3, police intervened to stop a fight on the picket line at the McCormick Harvesting Machine Company. The incident turned violent and police fired on the strikers, killing four. Afterward, a local anarchist group organized a meeting in Chicago's Haymarket Square to protest the shooting of the strikers.

On the evening of May 4, about 3,000 people gathered to hear the speeches. As the meeting began to break up, the police moved in to keep order. Someone threw a bomb, killing one officer and wounding six others. The

police opened fire, and workers shot back. About 100 people, including nearly 70 police officers, were injured.

The police arrested eight people for the bombing. Seven were German immigrants and advocates of anarchism. The incident horrified people across the country. Although the evidence was weak, all eight men were convicted, and four were executed.

Critics long opposed to the union movement pointed to the Haymarket riot to claim that unions were dominated by dangerous radicals. One of the men arrested was a member of the Knights of Labor. This association hurt the Knights' reputation and, coupled with lost strikes, led to a steady decline in membership and influence.

The Homestead Strike

In the summer of 1892, another labor dispute led to bloodshed. A steel mill owned by Andrew Carnegie in Homestead, Pennsylvania, was managed by an anti-union business partner, Henry Clay Frick. The mill's employees belonged to the Amalgamated Association of Iron, Steel, and Tin Workers, the largest craft union in the country. When the union's contract was about to expire, Frick proposed to cut wages by 20 percent. He then locked employees out of the plant and arranged for the Pinkerton Detective Agency to bring in replacement workers.

When the Pinkertons and strikebreakers approached the plant on barges, the strikers refused to let them land. Gunfire followed. After 14 hours, several Pinkertons and strikers were dead, and dozens more were injured. The governor of Pennsylvania then ordered the militia to take control and protect the replacement workers. After four months, the strike collapsed.

The Pullman Strike

Under the leadership of Eugene V. Debs, railroad employees organized the American Railway Union (ARU) in 1893. As an industrial union, the ARU tried to organize all employees of the railroad industry. Among the workers the union organized were the employees of the Pullman Palace Car Company. The owner, George Pullman, had built a company town, Pullman, just outside of Chicago and required

Comparing Major Strikes

	Homestead Steel Strike, 1892	Pullman Railroad Strike, 1895	Lawrence Textile Strike, 1912
Conditions	Seeking to break the union, the Carnegie Steel Company rejects wage increase and proposes a 20% wage cut	Deep wage cuts without cuts in rent and food prices at company housing and company stores	Very low wages; high mortality among workers (many workers are young girls); extreme poverty among workers; strike begins after new wage cuts
Union	Amalgamated Association of Iron, Steel, and Tin Workers	American Railway Union	International Workers of the World (IWW); strikers mostly female, immigrant textile workers
Tactics	Workers: Surround factory with pickets and armed workers to keep it shut down and keep strikebreakers out Employer: Locks workers out of the plant; hires Pinkertons to break strike	Workers: Refuse to handle any railcars built by Pullman; railroads are tied up nationwide Employer: Locks workers out of factory	Workers: Picketing; union provides food and money to strikers; gains support by touring child workers around country Employer: Uses firehoses on picketing workers
Role of Government	State government sends in militia to end violence between strikers and Pinkertons	Federal government gets court injunction to end strike because it interferes with shipment of U.S. mail; federal troops end strike	Local police and state and local militia make mass arrests, attack picketers; after attack on women and children, strike is publicized; Congress and President Taft investigate
Outcome	Company hires strikebreakers; strike collapses after anarchist tries to kill plant manager	ARU leaders are jailed, strike ends unsuccessfully; ARU membership declines	Employers give in, grant workers' demands


Analyzing VISUALS

- 1. Contrasting** How does the Lawrence Textile Strike differ from the others?
- 2. Analyzing Visuals** In which instance do federal troops break the strike, and on what grounds?

his workers to live there and to buy goods from company stores. In 1893 the Pullman Company laid off workers and slashed wages. The wage cuts made it difficult for workers to pay their rent and the high prices at the company stores. After the company refused to discuss workers' grievances, a strike began. To show support for the Pullman strikers, other ARU members across the United States refused to handle Pullman cars.

This boycott tied up the railroads and threatened to paralyze the economy. Determined to break the strike, railroad managers arranged for U.S. mail cars to be attached to the Pullman cars. If the strikers refused to handle the

Pullman cars, they would be interfering with the U.S. mail, a violation of federal law. President Grover Cleveland then sent in troops, claiming it was his responsibility to keep the mail running. Then a federal court issued an **injunction**, or formal court order, directing the union to halt the boycott. Debs went to jail for violating the injunction, but both the strike at Pullman and the ARU strike collapsed. In the case *In re Debs* (1895), the Supreme Court upheld the right to issue such an injunction. This gave business a powerful tool for dealing with labor unrest.

 **Reading Check** **Summarizing** Why was it difficult for unions to succeed in the 1800s?

New Unions Emerge

MAIN Idea The AFL fought for skilled workers; new unions tried to organize unskilled workers.

HISTORY AND YOU Do you know anyone who belongs to a union? Read on to learn about the different types of unions and how they tried to help their members.

Although workers often shared the same complaints about wage rates and working hours, unions took very different approaches to how they tried to improve workers' lives. Trade unions remained the most common type of labor organization. Of course, most workers were unskilled and unrepresented by trade unions. Thus, new types of unions emerged that tried to reach out to those workers and had different ideas about how to help them.

The Rise of the AFL

The **American Federation of Labor** (AFL) was the dominant union of the late 1800s. In 1886 leaders of several national trade unions came together to create the AFL. From its beginning, the AFL focused on promoting the interests of skilled workers.

Samuel Gompers was the first president of the AFL, a position he held until 1924 (with the exception of one year). While other unions became involved in politics, Gompers tried to steer away from controversy and stay focused on "pure and simple" unionism. That is, he thought it best that the AFL stay focused on "bread and butter" issues—wages, working hours, and working conditions. He was willing to use the strike but preferred to negotiate.

The AFL had three main goals. First, it tried to convince companies to recognize unions and to agree to collective bargaining. Second, it pushed for **closed shops**, meaning that companies could only hire union members. Third, it promoted an eight-hour workday.

The AFL grew slowly, but by 1900 it was the biggest union in the country, with over 500,000 members. Still, at that time, the AFL represented less than 15 percent of all nonfarm workers. Most AFL members were white men, because the unions discriminated against African Americans, and only a few would admit women.

The IWW

In 1905 a group of labor radicals, many of them socialists, created the Industrial

People IN HISTORY

Samuel Gompers 1850–1924

Samuel Gompers was the longest-serving president of the American Federation of Labor. Born in London to a Dutch Jewish family, Gompers quit school at 10 to earn money for his family, working as a cigarmaker. He and his family moved to the United States in 1863.

In 1877 Gompers became president of the Cigarmakers' Union. In 1886 he persuaded other craft unions to form the American Federation of Labor and became its first president. Within four years, the AFL had a quarter of a million members. That number grew to one million during the next two years.

A practical man who distrusted socialism, Gompers avoided political ideas and concentrated on improving working conditions. He believed that a just society was built on a fair labor policy. "Show me the country in which there are no strikes and I will show you that country in which there is no liberty," he said.

Do you agree that a union can try to improve working conditions without becoming involved in politics? Explain your answer.



Eugene V. Debs 1855–1926

Eugene Victor Debs was a prominent labor leader and member of the American Socialist Party. Born in Terre Haute, Indiana, Debs went to work at age 15 as a railroad fireman. He helped found the Brotherhood of Locomotive Fireman.

In 1893 Debs helped organize the American Railway Union (ARU). At the time, railway engineers, firemen, conductors, and switchmen all had separate unions. The ARU tried to organize all railroad employees into one union. Debs was arrested for interfering with the U.S. mail during the ARU's unsuccessful Pullman strike. While in prison, Debs read works by Karl Marx and became very critical of capitalism.

Debs ran for president five times between 1900 and 1920 as the nominee of the American Socialist Party. He waged his last campaign from prison while serving time for speaking against America's involvement in World War I.

What did Debs think about combining politics with union activities? How does this differ from Gompers's approach?



Workers of the World (IWW). Nicknamed “the Wobblies,” the IWW wanted to organize all workers according to industry, without making distinctions between skilled and unskilled workers. The IWW endorsed using strikes and believed “The working class and the employing class have nothing in common.”

The IWW believed all workers should be organized into “One Big Union.” In particular, the IWW tried to organize the unskilled workers who were ignored by most unions.

In 1912 the IWW led a successful strike of textile workers in Lawrence, Massachusetts. After textile companies cut wages, 25,000 workers went on strike. During the strike, the children of strikers were sent out of town—in case things became violent. The companies reversed the wage cuts after ten weeks. The Lawrence strike was the IWW’s greatest victory. Most IWW strikes failed.

The IWW never gained a large membership, but its radical philosophy and controversial strikes led many to condemn the organization as subversive.

Working Women

After the Civil War, the number of women wage earners began to increase. By 1900 women made up more than 18 percent of the labor force. The type of jobs women did outside the home reflected society’s ideas about what **constituted** “women’s work.” About one-third of women wage earners worked as domestic servants. Another third worked as teachers, nurses, and sales clerks. The remaining third were industrial workers. Many worked in the garment industry and food-processing plants.

Regardless of the job, women were paid less than men even when they performed the same jobs. It was assumed that a woman had a man helping to support her, and that a man needed higher wages to support a family. Most unions excluded women.

One of the most famous labor leaders of the era was Mary Harris Jones, also known as “Mother Jones.” An Irish immigrant, Jones began as a labor organizer for the Knights of Labor, then helped to organize mine workers. Her persuasiveness as a public speaker made her a very successful organizer, leading John D. Rockefeller to label her “the most dangerous woman in America.”

In 1900 Jewish and Italian immigrants who worked in the clothing business in New York City founded the International Ladies’ Garment Workers Union. The membership, composed mostly of female workers, expanded rapidly in a few years. In 1909 a strike of 20,000 garment workers won union recognition in the industry and better wages and benefits for employees.

In 1903 Mary Kenney O’Sullivan and Leonora O’Reilly decided to establish a separate union for women. With the help of Jane Addams and Lillian Wald, they established the Women’s Trade Union League (WTUL), the first national association dedicated to promoting women’s labor issues. The WTUL pushed for an eight-hour workday, the creation of a minimum wage, an end to evening work for women, and the abolition of child labor.

Reading Check **Comparing** How were female industrial workers treated differently from male workers in the late 1800s?

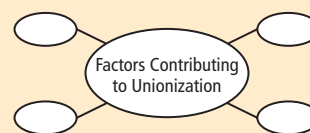
Section 4 REVIEW

Vocabulary

1. **Explain** the significance of: deflation, trade union, industrial unions, blacklist, lockout, Marxism, Knights of Labor, arbitration, injunction, American Federation of Labor, Samuel Gompers, closed shop.

Main Ideas

2. **Identifying** Use a graphic organizer similar to the one below to list the factors that led to an increase in unions in the late 1800s.



3. **Describing** What groups of workers were represented by the Knights of Labor?
4. **Discussing** How did employers and unions treat women differently from men? What reasons were given for the differences?

Critical Thinking

5. **Big Ideas** Why did industrial unions frequently fail in the late 1800s?
6. **Determining Cause and Effect** Why do you think the rise of unions might have led to increased opposition to immigrants in the United States?
7. **Analyzing Visuals** Look at the map on page 431. In what state did two major disturbances occur? How do you explain this?

Writing About History

8. **Persuasive Writing** Imagine that you are an American worker living in one of the nation’s large cities. Write a letter to a friend explaining why you support or oppose the work of labor unions.



Study Central To review this section, go to glencoe.com and click on Study Central.

Chapter 12 VISUAL SUMMARY



You can study anywhere, anytime by downloading quizzes and flashcards to your PDA from glencoe.com.

Causes of Industrialization

- Abundant natural resources
- Cheap immigrant labor force
- High tariffs reduce the import of foreign goods
- National transportation and communication networks

► The Central Pacific Railroad Company changed the way companies did business and helped link the nation together.



Causes of the Growth of Big Business

- Little or no government intervention
- Development of pools, trusts, holding companies, and monopolies
- Small businesses could not compete with economies of scale of larger businesses
- Practices of some big businesses sometimes limited competition



▲ Blast furnaces of a U.S. Steel plant line the Monongahela River east of Pittsburgh in Braddock, Pennsylvania, in 1905. New technology and new forms of business organization made possible the rise of large-scale industrial factories in the late 1800s.

Effects on the Workplace

- Rural migration and immigration created large, concentrated workforce
- Low wages, long hours, and dangerous working conditions were common in large-scale industries
- First large unions formed but had little bargaining power against larger companies

► Workers fill molds with molten steel at a foundry in 1905. Working conditions of the era led to many industrial accidents and contributed to the rise of unions.



STANDARDIZED TEST PRACTICE

TEST-TAKING TIP

Be sure to pay close attention to specific words in a question. Words can change the meaning of the sentence and of the correct answer.

Reviewing Vocabulary

Directions: Choose the word or words that best completes the sentence.

- _____ are formed by a legal agreement in which one person manages another person's property.
 - Trusts
 - Pools
 - Corporations
 - Monopolies
- _____ united all craft workers and common laborers in a particular industry.
 - Closed shops
 - Trade unions
 - Industrial unions
 - Blacklists
- Costs a company has to pay, such as loans, mortgages, and taxes, whether or not it is operating, are called
 - investment funds.
 - economies of scale.
 - fixed costs.
 - operating costs.
- Supporters of _____ believe that the government should not interfere in the economy other than to protect private property rights.
 - high tariffs
 - laissez-faire
 - industrial regulations
 - high taxes for private individuals

Reviewing Main Ideas

Directions: Choose the best answers to the following questions.

Section 1 (pp. 410–415)

- What factors contributed to industrialization?
 - lack of natural resources
 - free enterprise system
 - limited workforce
 - deteriorating railroad system
- Laissez-faire relies on
 - the government to regulate wages and prices.
 - high taxes and government debt to fund businesses.
 - high tariffs on foreign goods.
 - supply and demand to regulate wages and prices.

Section 2 (pp. 416–421)

- How did the federal government aid railroad construction in the 1850s and 1860s?
 - advertised overseas to attract immigrants to help build tracks
 - used tax dollars to fund many railroad projects
 - passed laws to legalize railroad monopolies
 - granted public lands to railroads to sell to raise funds
- The Pacific Railway Act provided for the construction of a railway
 - by offering right-of-way land grants to railroad companies.
 - along the Pacific coast from California north to Canada.
 - by the Union Pacific Railroad company.
 - by the Central Pacific Railroad company.

Need Extra Help?

If You Missed Questions . . .	1	2	3	4	5	6	7	8
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GO ON 

Chapter 12

Section 3 (pp. 422–427)

9. Corporations are organizations that
 - A receive federal funding.
 - B sell stock to the public.
 - C have a monopoly on a product or service.
 - D earn profits for their workers.
10. In the late 1800s, which of the following helped business leaders eliminate competition?
 - A strikes
 - B labor unions
 - C closed shops
 - D monopolies

Section 4 (pp. 428–435)

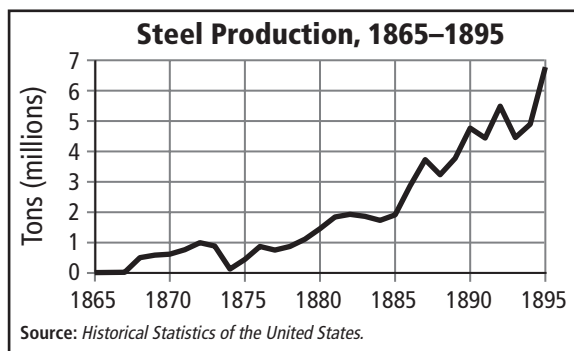
11. Labor unions were formed to
 - A protect factory owners and improve workers' wages.
 - B improve workers' wages and make factories safer.
 - C make factories safer and prevent lockouts.
 - D prevent lockouts and fight deflation.
12. Which of the following events reduced membership in the Knights of Labor?
 - A the Pullman Strike
 - B the panic of 1873
 - C the Haymarket Riot
 - D the Great Railroad Strike of 1877
13. In the last half of the 1800s, which development led to the other three?
 - A expansion of the middle class
 - B growth of industrialization
 - C formation of trusts
 - D creation of labor unions

Critical Thinking

Directions: Choose the best answers to the following questions.

14. The slogan "Eight hours for work, eight hours for sleep, eight hours for what we will" was used in the late 1800s to promote a major goal of
 - A farmers.
 - B politicians.
 - C industrialists.
 - D organized labor.

Base your answers to questions 15 and 16 on the chart below and your knowledge of Chapter 12.



15. Between what years did steel production increase the most?
 - A 1865–1870
 - B 1885–1890
 - C 1890–1895
 - D 1895–1900
16. How did increased steel production contribute to American industrialization?
 - A decreased the number of jobs available for workers
 - B discouraged the consolidation of industry
 - C improved transportation methods such as railroads
 - D encouraged immigration by providing a safe work environment

Need Extra Help?

If You Missed Questions . . .	9	10	11	12	13	14	15	16
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GO ON 

17. Which of the following statements about labor unions in the late 1800s is accurate?
- A Strikes by labor unions usually gained public support.
 - B Labor union activities were frequently opposed by the government.
 - C Demands by labor unions were usually met.
 - D Arbitration was commonly used to end labor unrest.
18. The “new immigrants” to the United States between 1890 and 1915 came primarily from
- A southern and eastern Europe.
 - B northern and western Europe.
 - C East Asia.
 - D Latin America.

Analyze the cartoon and answer the question that follows. Base your answer on the cartoon and on your knowledge of Chapter 12.



Source: Bernhard Gillam, *Puck*, February 7, 1883

19. What does this cartoon say about Gould and Vanderbilt?
- A They are giving money to the hard-working laborers.
 - B They are getting rich at the expense of others’ back-breaking work.
 - C The ship is slowly crumbling like their empires.
 - D The workers are determined to overthrow them.

Document-Based Questions

Directions: Analyze the document and answer the short-answer questions that follow the document.

In the following excerpt from *History of the Standard Oil Company*, Ida Tarbell warns of the effects of Rockefeller’s business practices on the nation’s morality. Read the excerpt and answer the questions that follow:

“Very often people who admit the facts, who are willing to see that Mr. Rockefeller has employed force and fraud to secure his ends, justify him by declaring, ‘It’s business.’ That is, ‘It’s business’ has come to be a legitimate excuse for hard dealing, sly tricks, special privileges. It is a common enough thing to hear men arguing that the ordinary laws of morality do not apply in business.

As for the ethical side, there is no cure but in an increasing scorn of unfair play. . . . When the businessman who fights to secure special privileges, to crowd his competitor off the track by other than fair competitive methods, receives the same summary disdainful ostracism by his fellows that the doctor or lawyer who is ‘unprofessional,’ . . . we shall have gone a long way toward making commerce a fit pursuit for our young men.”

—from *History of the Standard Oil Company*

20. According to Tarbell, what practices had Rockefeller used to establish Standard Oil Company?
21. In what way did Tarbell believe the attitudes of the American people contributed to Rockefeller’s business practices?

Extended Response

22. Identify labor unions formed during the late 1800s and early 1900s. Discuss the different views, goals, and activities of each organization. How were these organizations similar to or different from each other? What roles did unions and union members play in industrialization? Write an expository essay that supports your position with relevant facts and details.

STOP

History  **ONLINE**

For additional test practice, use Self-Check Quizzes—Chapter 12 at glencoe.com.

Need Extra Help?

If You Missed Questions . . .	17	18	19	20	21	22
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